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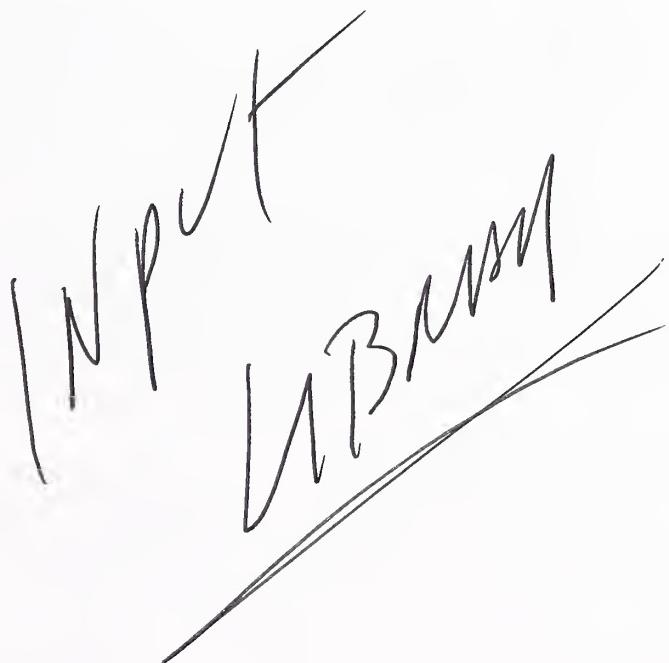
STRATEGIC MARKET PERSPECTIVE

The Electronic Catalog Market: Status and Directions

Electronic Commerce Program

A U G U S T 1 9 9 4

The Electronic Catalog Market: Status and Directions



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Abstract

Electronic catalogs are being used today for merchandise and materials procurement as well as information gathering and research. They come in diskette, CD ROM and on-line formats and involve interactions between manufacturer and single vendor clients or distributors and multivendor clients. Catalog vendors have marketed directly to industry while others have represented the information technology industry. Other forms have traditionally existed.

Forty billion dollars of business merchandise sales are conducted annually in the U.S. today. This compares to \$30 billion of business sales conducted via traditional (printed) catalogs. Electronic catalog sales represent slightly more than 1% of all business sales in the U.S. based on a \$3.1 trillion business sales total last year. These figures represent the amount of business which can be conducted through the use of electronic and other forms of business today and the vast potential for future use.

As for the actual size of the market, that is more difficult to estimate since this is a young, but actively growing opportunity for vendors of electronic commerce products. A conservative estimate based on single CD ROM sales to sets of customers can generate a market up to \$15 million for five hypothetical vendors.

This report, containing 82 pages and 7 exhibits, describes the catalog sales market and the role that newly emerging electronic catalogs are playing. It describes the current electronic commerce infrastructure and how this could contribute to the growth of electronic catalogs. It also profiles some of the traditional players in the catalog sales industry and those companies currently involved in the electronic catalog industry. Recommendations to prospective vendors are made.

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Electronic Commerce Program

The Electronic Catalog Market: Status and Directions

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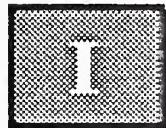
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Introduction

A

Background

In today's electronic commerce environment many companies are exploring new avenues for providing services and selling products. Electronic catalogs (ECs) are emerging as one application which can be used on the Internet and on business subnets, as in the CommerceNet example. EC use of CommerceNet has been publicly endorsed by Hewlett-Packard, Apple, Tandem, and DEC. It is not farfetched to think that major vendors could distribute their consumer products via ECs.

The catalog industry has been in existence for some time. In this report, we differentiate between the paper catalog industry and the emerging EC industry. We also make note of the differences between catalogs used for business-related purchases and those used by consumers.

This report focuses on business-to-business EC services.

B

Objectives of this Study

The purpose of this report is to provide an overview of the Electronic Catalog marketplace. The focus is on business-to-business use of ECs. From this point on, the market name will be shortened to business ECs. The study is survey-based and assesses the size of the entire corporate-to-corporate business catalog market as well as the scope of potential sales derived via ECs.

In this report, we will assess trends, issues and directions of the EC publishing industry.

C

Scope of this Study

This report will take a broad look at the EC marketplace describing players who are most active and their relative importance in the marketplace. Areas to be discussed include: various functions, ECs, issues related to catalog development and distributions well as issues related to technologies involved. The industry breakdown will include profiles of EC providers within manufacturing, those INPUT considers "traditional" catalog providers as well as nontraditional providers. Discussion of future direction is also included.

D

Methodology

The most important questions asked in this report are:

Who are the players in the EC market?

What are the vertical markets in which catalogs are being used?

What are current issues surrounding catalog growth?

INPUT surveyed trade associations, various distributor groups, large catalog publishing companies and other sources concerning their activity in ECs. From this survey, a directory of 100 catalog publishers was compiled. These are the most likely candidates to provide services, or already providing electronic services.

Catalog publishers were classified in relation to the overall economy indicating industry sectors and distribution channels they each serve and, to the extent possible, how much dollar trade catalogs were responsible. This portion of analysis relied upon U.S. Department of Commerce and other government sources. In addition, INPUT identified and interviewed in depth several providers of ECs. These providers were geographically located in the San Francisco Bay Area.

E

Definitions

The following are definitions generally accepted in the industry and key to discussing the business EC industry.

Business merchandise catalog:

A catalog used to market and/or sell merchandise of a business (the supplier) to another business (the buyer) distinct from "consumer catalog" which sells from a business to a consumer. Spiegel, Eddie Bauer, and L.L. Bean are examples of consumer catalogs. This report focuses exclusively on business-to-business catalogs (i.e. business catalog).

Business EC:

A business catalog that, instead of having the form of a printed paper booklet, is placed in electronic form typically by an on-line data base or a CD ROM (compact disk, read only memory) diskette.

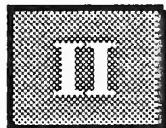
Multivendor catalog:

A catalog listing products of several, often thousands, of vendors. Examples of multivendor catalogs are McGraw-Hill and Sweets Catalog of Building Materials. In a business-to-business scenario, usually distributors providing multivendor catalogs.

Single vendor catalog:

A catalog listing products of only one vendor. Digital Equipment's, DEC Direct is an example. The catalog lists only Digital products. In a business scenario it will usually be manufacturers providing single vendor catalogs.

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Executive Overview

The use of electronic catalogs (ECs) for business merchandise sales is a new sales channel. No standards are yet established for producing electronic catalogs.

ECs can be classified in several dimensions: how they are used, formats, the interaction between vendors, distributors and the varied providers who use them.

Merchandise and materials procurement as well as "information gathering" are some of the uses of ECs. In terms of formats: diskette, CD ROM and on-line are technologies available today. As for interaction between vendor and customer, there are two primary varieties: manufacturer/single vendor or distributor/multivendor. As for catalog vendors, there are many types. Traditional catalog marketing directly to industry, those representing the information technology industry and still others.

As with any emerging industry, the prospective player's objective is to enter the marketplace early and capture dominant market share. The risk involved is lost investment and the possibility that the market will fail to materialize or emerge in some unanticipated form. This is still the case in the EC marketplace.

A

Merchandise Sales through Electronic Catalogs

Sixty billion dollars of merchandise was ordered electronically from one business by another in 1992. This includes EDI ordering without actual existing electronic catalogs. Approximately \$30 billion of business sales were ordered through traditional (printed) catalogs. Estimates of the amounts sold through existing ECs range up to \$40 billion.

It is safe to say that \$40 billion of business merchandise sales in the EC area, slightly more than 1% of all business sales in the U.S., were accomplished through this technology. Total U.S. business sales were \$3.1 trillion last year.

In other words, there is much growth potential for sales revenues derived via ECs. Or, in terms of ECs being a single "sales channel", there is room for ECs to take a significant share from other distribution channels.

The number of business print catalogs is estimated to be approximately 6,000. The number of business electronic catalogs is in the low hundreds.

It is difficult to size this market at this early stage of its development. However, compounding a hypothetical CD ROM catalog situation can lead to a figure. At an average of \$5.00 per disk, producing up to \$100,000 per month for one customer, generates \$100 to \$500,000 monthly revenues in addition to \$4,000 up-front production charges. Multiplied by some number of customers, 100 for example, a substantial revenue stream can be generated.

If the minimum copies were made, the average customer for this hypothetical company could generate \$30,000 annually and that, multiplied by 100 customers could generate \$3 million annually. Conservatively assuming at least five vendors, the market could be approximately \$15 million. These are derived, but not at all impossible revenues.

Further, given the potential sales volume which distributors, manufacturers and others could derive via ECs, it is not difficult to suggest substantial growth rates. At the low end of about 10% growth, the market would be up \$50 million in five years. This market could contribute to but not be a major contributor to the overall Electronic Commerce market currently projected to be \$6 billion. It could, however, be a bridge between the traditional electronic commerce market and the consumer market (which will discover ECs via the Internet). The potential for developing new catalogs in this marketplace is excellent.

Thus the significance of this market will vary with the vendor. This may be an attractive potential revenues pool for a very small start-up company, either to the business community or

consumers. It may also be significant enough for a major EC player to add ECs to their portfolio, especially if customers have requested such an offering. The approach taken by Sterling Software(developing a catalog to serve current EDI customers and EDI-ready customers) is a good strategy. This secures a customer base in advance of rolling out the product. Further versions can be developed depending on the success of the original.

Clearly this is a small and new market. But business ECs are growing. It is important to note, however, that even as the number of ECs grow, the share of business sales generated will most likely grow at a slower rate.

One major concern INPUT has regarding this market is there may be a chance that sales may never become significant and may fail to reach critical mass. The reason is that many catalogs generate no sales whatsoever—they are strictly used for information gathering purposes. This is a significant finding of this report and the potential catalog vendor is advised to conduct their research very carefully before investing in EC products.

Careful planning is required to target appropriate markets and determine appropriate formats. Direct sales to new corporate markets may be more difficult than providing services to established markets (e.g., current customer bases). Existing sales channels need to be analyzed carefully to evaluate the potential impact of EC sales.

B

Electronic Catalogs in the Sales Process

ECs are often not used for making purchases, rather they are used for information gathering. In engineering industries (semiconductors, electronics, building materials), most ECs are used by engineers to obtain product information and have no ordering capability.

Even when ECs are used to create a purchase order, the buyer has previously interfaced with a sales representative of the selling company. ECs are typically an adjunct to existing sales and marketing procedures. They are often promoted as an extra service to customers.

C

Industries Most Amenable to Electronic Catalogs

Industries where ECs will likely exist include: general business supplies or those situations where buyers are businesses and sellers are distributors. These include office and stationery supplies and PC-based computer software and equipment.

Retail catalog sales are those instances where the buyer is a retailer and the seller is either a distributor or a manufacturer. These include books and magazine subscriptions, shoes, sporting goods, music products, auto parts, marine hardware (including boat brokerage).

Manufacturing catalog sales are those cases where the buyer is a manufacturer or service provider and the seller is a manufacturer or distributor. These include graphics, printing and paper supplies, semiconductors and electronic components, pharmaceuticals and medical supplies, construction materials and hardware accessories, airplane parts and supplies, electric motors, food service equipment and industrial machinery.

D

Infrastructure Requirements of Electronic Catalogs

The infrastructure is in place for widespread use of ECs by the business community. Even small businesses have the minimum computing equipment required to access ECs. Needed critical mass exists for the growth of EC service providers.

On-line databases and CD ROM/floppy diskettes are two alternative product/service markets for ECs. Each has compelling advantages for use. CD ROM/floppy diskettes will continue to be a viable catalog medium through the 1990s. CDs are seriously cutting into on-line services as a way to receive information.

This trend is likely to continue until access to on-line services is made easier and more cost effective, particularly for new users. Start-up time, learning search syntax and becoming familiar with databases takes time and costs users. CDs are an attractive alternative but lack daily updates.

Improved on-line interfaces will restore some of the losses due to CDs. Also, cost of transmission services are a factor. In the case of the Internet and the major long distance carriers, especially AT&T, costs can be fairly low. Value-added network services, however, may be more expensive for catalog distribution.

E

Electronic Catalog Producers

There are four types of companies that produce ECs:

Manufacturers and distributors who sell products via catalogs. Such companies include Baker & Taylor Books, Digital Equipment Corporation, W.W. Granger and Wilco.

Traditional, print catalog producers. Such companies include R.R. Donnelly, Cahners Publishing, McGraw-Hill and others.

Companies new to the catalog market. These are typically information technology vendors such as GEIS, Sterling Software, Triad Systems Corporation and QRS Quick Response Services.

Start-up ventures such as Vertical Technologies, Distribution Sciences Corp., and Automated Catalog Services.

There are a variety of ways to create ECs. Some EC producers are simply contractors who produce a catalog for a fee (similar to a printer that prints a paper catalog). Others produce a catalog and sell its use to merchandise buyers and sellers.

Of those catalog producers who sell the use of their catalog, a flat fee is charged. In this study, INPUT came across no catalog pricing schedule where a percentage of sales was given to the catalog producer.

An arrangement of this type would link "sales generated via catalogs" to potential revenues for EC providers. Without that link, potential revenues can only be generated from initial sale of software, transmission sales (in the case of a service offering) and maintenance/customer service. Repeated sales (suggesting increased volume) will be more important here, than in the case of a percentage of sales volume via the customer use of the network.

F

Recommendations

ECs have a staggering potential in terms of volumes of corporate dollars which could be generated using them. However, the actual size of the catalog marketplace today, based on revenues generated by vendor sales, is in fact quite small. Since the marketplace is young, it is difficult to determine, at this point, what revenues to EC vendors will be, or even to those providing consulting.

In terms of current obstacles to the implementation of ECs, respondents to INPUT's survey offered the following:

- Getting members to realize the potential of such a system
- Lack of information about ECs on the part of members
- "Members" being association members who were only potential users
- Understanding the use and value of ECs
- The technology is an obstacle for some
- Just having the time to implement the catalog application
- The lack of compatibility between corporate systems is perceived by some to be an obstacle
- Keeping information updated.

These are some of the same concerns that potential EDI users have in general. As EDI software providers have begun to remove some technology obstacles and provide customer service which removes some of these problems, the EC providers may go through the same development and learning curve with their customers.

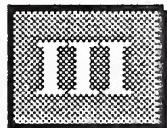
It is also possible that, in time, some of these obstacles will be broken down as customers become more involved in electronic commerce at any level (using EDI, for example). Removing the obstacles opens the door to implementation of other electronic commerce-type functions. On public networks such as the Internet, it may be ECs which will lead the way in bringing

electronic commerce functionality to the minds of potential users. In the traditional corporate setting, EDI functionality, once implemented, provides a platform for an EC function.

Therefore, vendor strategies should consider the likely growth path of ECs within their specific selling area of interest. Users can certainly seek EC services from any industry sector and from any business vendor. It is through this interaction with their traditional suppliers that business users will stimulate further growth in catalogs.

It is not inappropriate for the business user to seek user support from a vendor in overcoming some of these obstacles. In time, this market will flourish if, in fact, the notion of Electronic Commerce is well grounded. More than twenty years of EDI suggests that it is.

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Issues and Future Directions of Electronic Catalogs

In this chapter characteristics of business Electronic Catalogs (ECs) are reviewed and commercial conditions which encourage or discourage the development of this marketplace are summarized. Briefly, the key points in this chapter are as follows:

- ECs are, for the most part, not used in making purchases as one would expect. Rather, they are frequently used for information gathering purposes by prospective buyers or even for vendors and others with general interest in product areas.
- When ECs are used to make purchases, sales and marketing personnel and other media are often communicated with prior to making use of the catalog.

In other words, through print advertising or a call to prospective vendors, a buyer is referred to the catalog. ECs are not a completely new way of selling products. Rather they have grown adjunct to existing sales and marketing procedures. They are often promoted as an extra services to customers.

- The infrastructure for widespread use of ECs by the business community is already in place. Even the smallest business now has the minimum computing equipment required to access ECs. Needed critical mass in terms of service providers and technologies already exists for expansion of catalogs.

- Two alternatives exist for delivery of ECs: On-line databases and CD ROM floppy diskettes. Each has specific advantages. CD ROM/floppy diskettes will continue to be a viable catalog medium through the 90s. As access and use of on-line services becomes friendly and cost effective on-line databases will be increasingly be the preferred medium for ECs. Naturally, the use of on-line databases will grow at the same rate that databases for other purposes increase.

A

Purpose of Electronic Catalogs

1. Function of Electronic Catalogs

Catalogs (paper and electronic) are thought of as tools for shopping/procurement with emphasis on providing catalog user perfect information. Perfect information, in a classic economic sense, is desired by prospective buyers on product selection, prices and features in order to compare and make buying decisions.

This general function of catalogs is not necessarily the case with ECs. ECs fulfill other purposes as seen in these examples taken from GE Information Services, Sterling Software and INFO Enterprises (a Motorola company):

Catalog of ...	Catalog Used for ...
Pharmaceuticals	Tracking product price changes
Books	Price look up
Housewares	Consumer shelf space management
Other hard goods	Warehouse storage space requirements
Apparel	Scanning data for POS systems
Semiconductors	Keeping up to date on rapidly changing technologies

In general then, it could be said that ECs serve two purposes—one as a disseminator of product information and the other as a buy/sell conduit. As a disseminator of product information, at

minimum, the ECs name implies products are available for purchase. As a buy/sell conduit, ECs provide a platform by which customers can purchase products.

These two purposes of ECs reflect the kinds of users INPUT finds that take advantage of this technology. First is the information gatherer or nonprocurement personnel using a catalog. An example would be a design engineer or an otherwise "idea" person searching for suitable materials with which to build something. Another example would be an MIS manager downloading product data to update internal point of sale systems.

The other type of catalog user is a procurement official using a catalog to make a bulk purchase of materials.

ECs have the potential to provide even more functionality than stated above. They can provide information services after purchases have been made. For example, catalogs may track the use of products and provide warranty and maintenance information. User interactions with ECs (product queries, actual purchases, etc.) can be automatically recorded and turned into database marketing information.

2. Benefits to Buyers

Information gathering benefits include:

- Coordination of electronic systems such as Universal Product Code (UPC) catalogs that coordinate POS systems at stores with the UPC codes on apparel manufacturers' merchandise.
- CAD system interfacing (for example, Sweet's Office Furniture and Construction Materials).
- Most rapid dissemination of information on new or upgraded products.

Procurement benefits include:

- Locating the lowest prices (or optimal price/feature mix). A company purchasing for its direct mail campaign saved \$400,000 by using an EC that comprehensively listed all available papers of the mills in North America. Even the company's printer, R.R. Donnelley, did not have the ability to "know" all the sources.

- Product availability information. "You have the product now? How many? And, how soon can I receive it?"

3. Benefits to Sellers

Benefits to companies listing products in ECs include:

- Another advertising medium and distribution channel.
- Source of market data (queries and purchases are recorded for later analysis).
- ECs are cheaper to produce and distribute than paper ones.

B

The Electronic Catalog within the Marketing and Sales Function

ECs are typically used in conjunction with traditional sales, marketing and advertising procedures. They are not used in isolation. Few sales are made by anonymous buyers. The buyer has usually been contacted by telemarketing or sales personnel and usually has some ongoing relationship with the purveyor of the catalog. ECs are usually provided as an extra service to customers.

Remarks by the director of the National Association of Store Fixture Manufacturers is representative. The person estimates that approximately \$2 billion or 33% of the industry's total sales is generated by ECs. Still, catalogs are not entirely responsible for the sales. Sales still need salespeople, telemarketing and four-color advertising.

In other words, ECs can provide one channel of distribution, but is not likely to be used as a sufficient channel.

C

The Business Environment for Electronic Catalogs

1. Single Versus Multivendor Catalogs

As has been previously mentioned, two kinds of business catalogs including those in electronic form exist. Single vendor catalogs list the products of one manufacturer/supplier only. Multivendor catalogs list the products of several, often hundreds, of suppliers.

Single vendor catalog makers have constructed ECs to assist their customers in buying their products. Usually, the catalog is tied into an EDI electronic ordering system that the company implements. The catalog service precedes the EDI system. The catalog is offered free of charge to customers and sometimes a price discount is given where products are ordered electronically.

Multivendor catalogs are most often produced by distributors and less often by publishers, such as McGraw-Hill, Sweets, Cahners/Epic. Information technology vendors offering ECs are usually in partnership with a distributor or trade association. Examples include Triad Systems Corporation, GE Information Services, Motorola, and QRS Quick Response Services. Start-up companies that neither distribute, publish nor establish information technology companies are also starting EC services. These bring vertical market and information technology knowledge to the catalog. Companies in this category include Distribution Sciences Corporation, Automated Catalog Services and Vertical Technologies.

2. Distribution Industries

The distribution marketplace is catalog intensive. Collectively, distribution is the commercial segment where ECs are emerging. The majority of multivendor EC providers are distributors. Distributors have the most at stake with ECs. ECs are poised to vastly reshape the distribution industry.

Business environments of today will determine how ECs will emerge within the distribution industry.

Typically, distribution is identical across industries (for example, electronic motors, food, paper, etc.) consisting of manufacturer, distributor or the merchant and the customer. Sometimes distributors are owned by the manufacturer.

Historically, no one in the chain (manufacturer, distributor, customer) trusts the other. This fact impedes the adoption of electronic data interchange and other electronic commerce systems.

Manufacturers and distributors are mainframe users while customers are PC users. This, too, impedes the adoption of electronic systems. Common solutions are sought.

Distribution is typically regionalized. For example, in the paper industry there are approximately 25 to 35 regional markets for paper. The San Francisco/Sacramento region would be one, the Los Angeles region another, San Diego a third and so on. Every customer within a 150 mile radius uses a catalog. This has important consequences for EC design especially in the necessary customization aspects.

Forward-thinking distributors attempt to evolve from distribution to "marketing." That is, they prefer not to own the warehouse, nor the delivery trucks. Rather, they seek to outsource/subcontract these services and provide information clearinghouse functions. Problematic, is the fact that these companies' cultures and information systems are set up for traditional distribution and not marketing. They are imbued with the distribution mentality and work practices. They do not think alike nor have the necessary information on hand to be marketeers.

Good marketing requires demographic and buying pattern/trends information regarding customers. A paper distributor, for example, needs to know about its customers (printing companies), how many presses each customer has, what kind of stock and in what volumes they buy, what suppliers the customer buys from, etc. Only with this kind of information can a company be an effective marketing company.

Distribution companies today do not have this information. They have inventory information and take orders. They react to customers. Walmart is a good example of the distributor who knows its customers and sales trends and then sells to those trends.

Transaction archive databases such as Information Resources or AC Nielsen are the flip side of catalogs. ECs, however, can provide transaction information. For example, INFO Enterprises keeps a record of who looks at what products on the catalog. Catalogs are "pre-buy" tools; transaction databases are "post-buy" tools.

3. Inhibitors of Electronic Catalog Market Growth

- Traditional industry players other than buyers are not motivated to build ECs. Vendors are not motivated to build industry-wide, multivendor ECs. Trade associations, however, may be a focus for developing ECs.
- Price-fixing and price-change signaling regulations may impede the creation of a centralized listing of all prices in a given industry. Trade associations are restricted in providing pricing information because of the risk of being a vehicle for price-fixing and price-change signaling.
- Penetration of electronic capabilities is not standardized. This parallels the way in which EDI grew. Individual companies have traditionally had their own proprietary systems. People started creating industry standards. Today we see the same process with ECs. Manufacturers create their own and the result is customers having a separate system for each proprietary catalog.
- Profit margins fall due to ECs.
- Catalogs have different purposes, not always a procurement function. It is difficult to target users.

4. Drivers of the Electronic Catalog Market

- Penetration of information and technologies is fairly wide spread in business and the price/performance is now well within the afford ability levels of small businesses. Even small businesses have the capability to access ECs either via on-line hook-up, CD ROM or floppy diskette.
- EC technology is used in all major industries at this time.
- Federal government initiatives and federally created ECs are spurring EC development in key industry segments (computer and office equipment, general merchandise, aerospace and technology industries).
- The economics of EC production and distribution is better than printed catalog production by at least one order of magnitude and probably two. CD ROM is cheaper to publish and distribute than paper-based equivalents.

- The numbers of service companies and technologies are robust enough to sustain an EC industry. Candidate entities that offer EC services are diverse: dominant distributors, trade associations, information technology companies and new entrepreneurs.

5. Financing Electronic Catalog Publication

A major issue for this marketplace is the manner in which catalogs will come into existence. Manufacturers and distributors, especially those who distribute regionally, are not incented to publish ECs where all products of a given industry are listed with prices. ECs create a commodity marketplace with very thin profit margins by providing buyers with "perfect information." There are three ways to finance the EC service. First is to charge a subscription fee to buyers. Second is to charge a listing fee to sellers. Third is to enable the catalog provider to receive a percentage of every transaction.

It is important to note that all information that would go into a catalog is public domain information and there are implications of that fact.

Manufacturers and distributors should look beyond simply competing on price via ECs. Catalogs will probably erode margins. But manufacturers and distributors should look to provide customers with other valuable added services.

D

Electronic Catalog Architecture and Technology

There are two ways of delivering ECs today: via on-line databases or CD ROM. In the case of on-line databases, catalog users are dialing up the database with a computer equipped with modem and communication software. In the case of CD ROM or floppy diskette (3 1/2 or 5 1/4 inch), the catalog is delivered via this medium to the user's premises and installed in the computer system. Updates are made by sending another CD ROM or diskette. Updates can be monthly or quarterly depending on industry and/or rate of change of prices and product offerings. Both product/service markets are equal in their capacity to allow a user to create a purchase order and electronically send it to the supplier. However, as noted below, on-line systems have the

advantage of giving the buyer an immediate listing of available products to be ordered.

1. Advantages of On-line

On-line database catalogs can effectively disseminate rapidly changing information on products such as pricing, new product introduction, product availability for ordering and so on. This can be done more effectively on-line than with CDs. On-line database catalogs have no size limitation where CD ROMs and diskettes do. On-line databases could, in the future, offer better multimedia features than CD ROM diskette catalogs. Such features could include video clips showing product use, advertising and others.

2. Advantages of CD ROM Diskettes

CD ROM diskettes are more familiar and technically less challenging to catalog users and purveyors than on-line catalogs. Buyers are more likely to use catalogs that are contained in their own systems and do not require dialing out to systems. CD ROM diskette catalogs are much less expensive to publish and distribute than on-line catalogs. Disseminating large chunks of product information is less expensive on CD ROM diskette using public telecommunication networks. In other words, downloading many megabytes of an EC from an on-line source many times per day could cost in the hundreds, even thousands of dollars, per month.

3. Forecasts

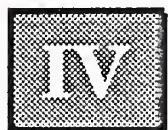
ECs in the future will most likely adopt more and more multimedia features such as video, high definition picture quality, full color capabilities and product specification/parameters that can be manipulated by buyers' site software such as CAD cam design specifications, extensive advertising, audio capabilities such as advertisements, product explanations, music or other sounds.

Some of these features may be further disseminated through output devices at the user site. For example, printing facilities may be invoked to create a hard copy of the catalog or portion thereof, perhaps just a single product description.

Multimedia ECs will require the advancement of a few key technologies. These technologies are:

- Data compression—This is important to on-line and CD ROM diskette product/service markets. Some diskette catalog publishers can get 20,000 product listings on one 3 1/2 inch floppy disk. Compression has already allowed more than an hour's worth of full motion video to be stored in CD ROM format. Data compression, frame relay and asynchronous transfer mode are leading compression techniques for getting more data down a telecommunications line.
- Bandwidth—This is important to on-line databases. Fiber optic cable has a very high capacity, but will not tie into every business establishment until the late 1990s or beyond. CD ROM/diskette-based ECs will prove economical until fiber is more available. More significant is the case of access user-friendly start-up time to reduce on-line costs up front.
- Client server—Client server impacts both product/service markets, but initially it will impact on-line catalogs. On-line catalogs could eventually take on a distributed format, perhaps with a central large database where manufacturers update product listings and several client databases located in regional markets.

Alternatively, one database could list all information on products while client catalogs offer customized views of pertinent information to the targeted catalog user (buyer users would see prices, information gatherer users would get detailed product specification information). Improved client server techniques could eventually allow a merger between down line catalog and CD ROM diskette catalogs with the former playing the server role and the latter playing the client role. This seems to be happening with Triad's Lasercat catalog described later.



Catalog Market Size and Segments

Background:

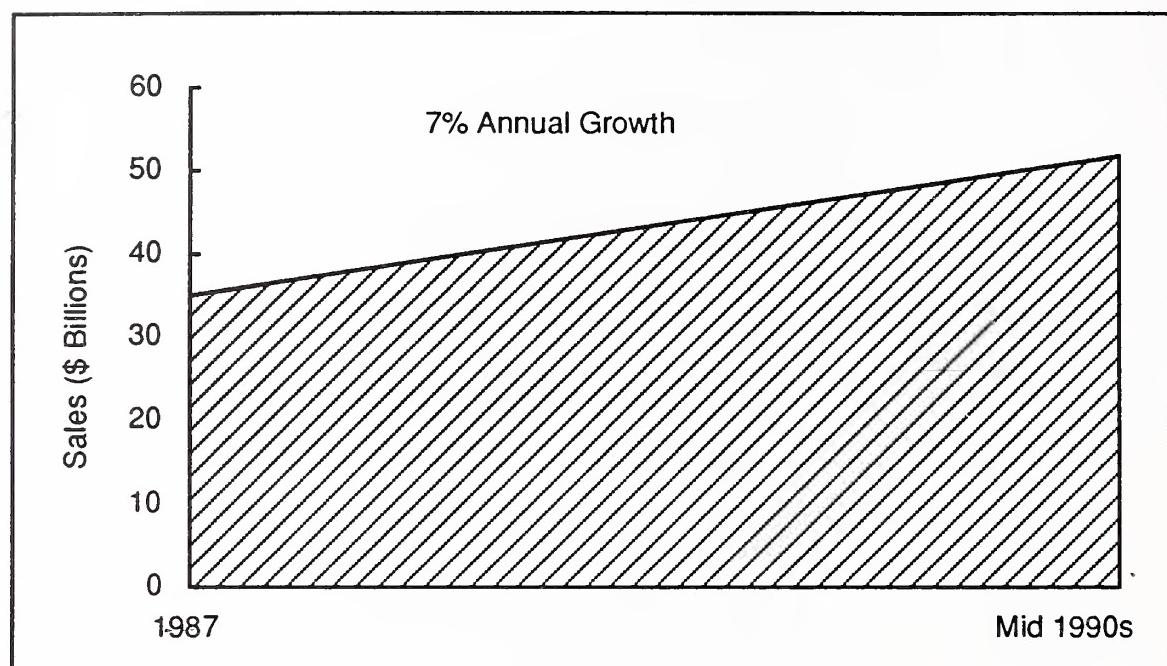
- Annual wholesale sales in the U.S. are about \$3 trillion. This will be used in this section as a proxy for total business-to-business sales in the U.S.
- Traditional catalogs generate approximately \$52 billion in merchandise sales annually and is growing at 7%. Traditional catalogs include consumer and business catalogs.
- Traditional business-to-business catalogs generate approximately \$30 billion. This figure includes some Electronic Catalog (EC) activity.
- Electronically-ordered merchandise in business-to-business transactions accounts for approximately \$60 billion.
- The proportion of merchandise sold via ECs to all business sales is, therefore, \$60 billion to \$3.1 trillion, or approximately 2%.

A

Merchandise Sales Volumes of Print Catalogs

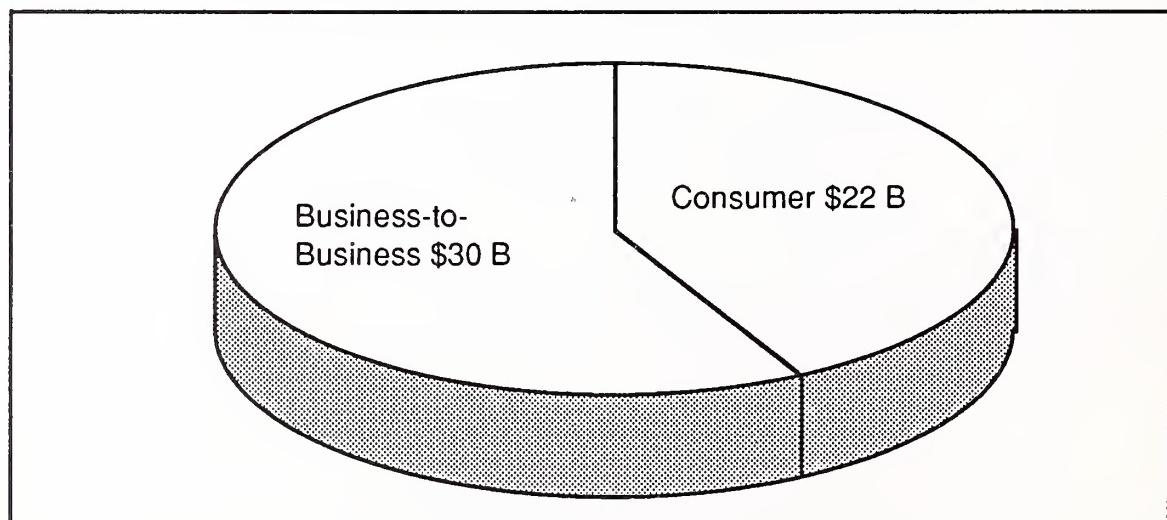
According to the Direct Marketing Association, sales of merchandise through print catalogs, those catalogs printed on paper, is approximately \$52 billion annually and has grown about 7% annually. This includes consumer sales and business-to-business merchandise sales. Exhibit IV-1 shows the growth of sales of merchandise through print catalogs.

Exhibit IV-1

Sales of Merchandise through Print Catalogs

Sales through consumer print catalogs total \$22 billion. Sales through business-to-business print catalogs are \$30 billion. The respective shares of these two categories of direct sales is shown in Exhibit IV-2.

Exhibit IV-2

Merchandise Sales through Traditional Catalogs

Source: Direct Marketing Association, Catalog Age magazine

There are approximately 10,000 consumer catalog titles and approximately 6,000 business-to-business titles in the U.S.

market. A closely allied category of direct sales or related market (television shopping) totaled \$2 billion by comparison.

B

Business-to-Business Catalog Market

As noted in Chapter I, the volume of sales conducted through business-to-business catalogs is more difficult to quantify than consumer catalogs because every business maintains a catalog, in one form or another, of its product line. All business-to-business sales, therefore, could conceivably be considered the amount of business generated by business-to-business catalogs.

There are three possible quantifications of the dollar sales volume among businesses based on catalogs. They are:

- The total business-to-business sales volume
- The business-to-business sales volume resulting from traditional catalogs
- The business-to-business sales volume stemming from electronic ordering that can be identified by adding up several of the leading EC providers

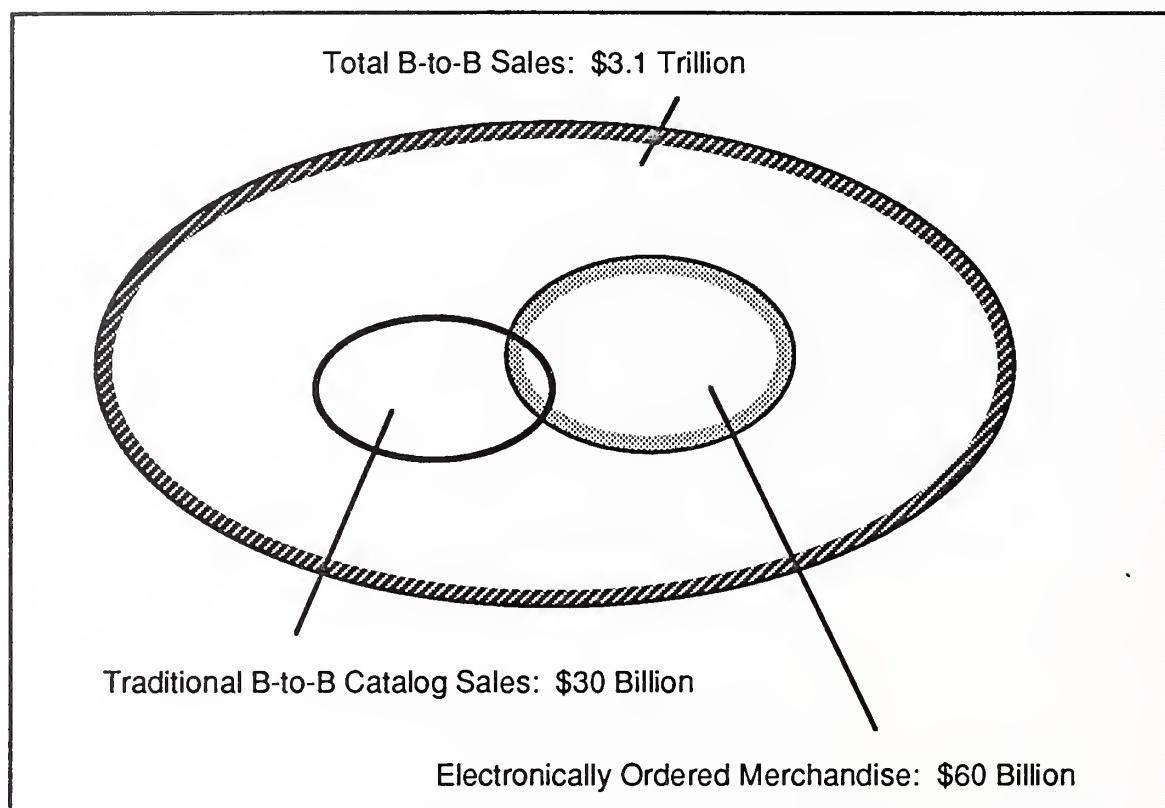
Exhibit IV-3 shows the relationship between these three measurements.

These three measurements are described in greater detail in the following sections.

At this point, note that the overlap between traditional business-to-business sales and electronically ordered merchandise is occurring with catalogs such as Digital Equipment Corporation's DEC Direct and W.W. Grainger's electronic buying service. Sales volumes for these ECs are included in the Direct Marketing Association's estimate of the traditional business catalog sales.

Exhibit IV-3

Business-to-Business Sales



Source: INPUT, Direct Marketing Assoc., Dept. of Commerce

1. Total Business-to-Business Sales Volume

Total business-to-business sales in the U.S., as indicated by wholesale sales, was approximately \$3.2 trillion in raw materials and manufactured products in 1993 and is expected grow 4% in 1994 (according to the U.S. Department of Commerce, U.S. Industrial Outlook 1994).

Key segments of the wholesale sector and their respective business-to-business sales volumes are shown in Exhibit IV-4.

These gross sales figures for business-to-business transactions could be considered the "upper limit" to the volume of business that could be conducted through catalogs.

Exhibit IV-4

**Merchant Wholesale Sales
Leading Sectors**

Sector	Annual Sales (\$ Billions)
Groceries	264
Machinery and Equipment	164
Motor Vehicles	154
Communications Equipment	129
Miscellaneous Non-durables	112
Petroleum	124
Electrical Goods	117
Farm Materials	116
Miscellaneous Durables	112
Metals and Minerals	76
Apparel	65
Other	1,650
Total	3,100

Source: Department of Commerce, U.S. Industrial Outlook 1993

2. Total Business-to-Business Catalog Sales Volume through Traditional Catalogs

According to catalog industry sources:

- Merchandise sales volumes resulting from print business-to-business catalogs are approximately \$30 billion.
- Approximately 6,000 business-to-business catalog titles exist.

Industry sources contacted for this data were: Direct Marketing Association, Catalog Age magazine, Information Authorities (an industry research service), and Greyhouse Publishing's Directory of Business-to-Business Publishing.

Business-to-business catalogs include:

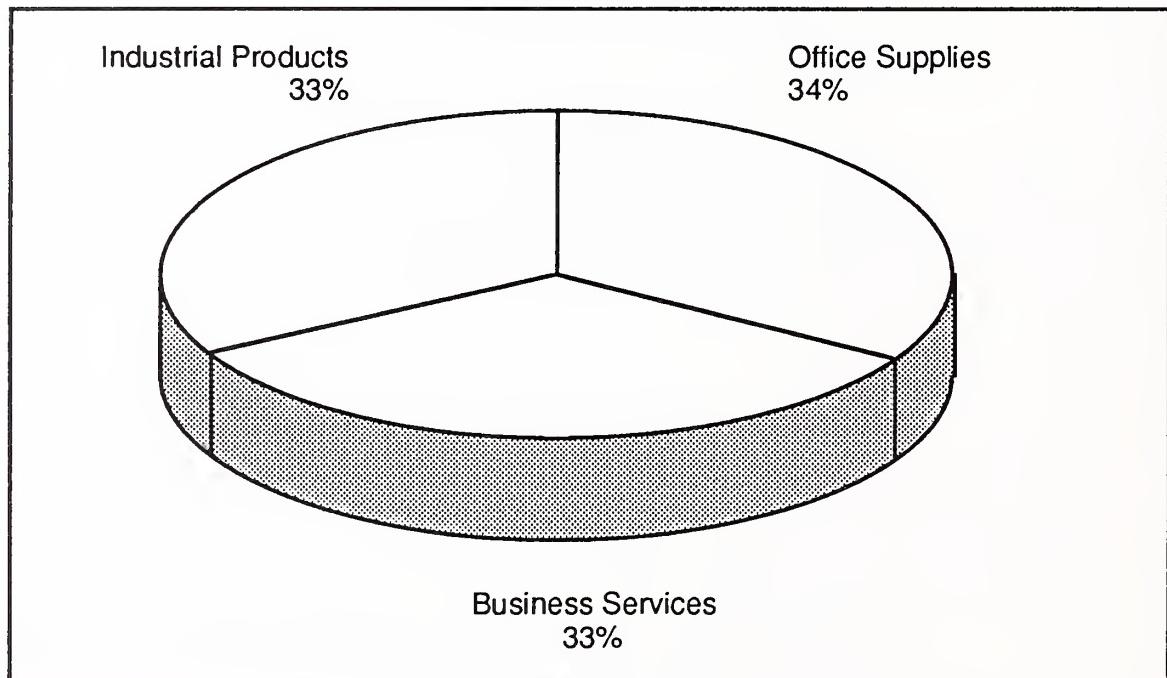
- Multivendor catalogs (electronic and paper)
- Single-vendor catalogs (electronic and paper)

A multivendor catalog is one where products of several manufacturers are listed. A single-vendor catalog is a catalog where all products are those of one manufacturer.

The major segments of business-to-business catalog sales are shown in Exhibit IV-5.

Exhibit IV-5

**Segments of Business-to-Business Print Catalog Market
by Sales Volume**



Source: Information Authorities, Direct Marketing Association

Office supplies include computer software and hardware products, office furniture, stationery and office supplies.

Business services include business information publications, seminar and educational courses, subscription services, mailing lists, courier and transportation services.

Industrial products include all kinds of intermediary products: machinery, instruments, medical supplies, raw materials, etc.

3. Merchandise Sales Volumes from Electronic Business-to-Business Catalogs

Business sales volumes generated from ECs are estimated to be approximately \$60 billion. This was arrived at by identifying the leading providers of ECs and estimating how much merchandise sales the catalogs generated.

In some cases (Digital Equipment Corporation, IBM Direct, Defense Logistics Agency, McKesson), these figures are publicly disclosed. In most other cases, estimates were made.

More precise sales figures are available from those providers of catalogs where the catalog is an essential sales tool to their business. This is the case for single-vendor EC providers such as IBM and Digital and multivendor catalog providers (almost always distributors) such as McKesson or W.W. Grainger.

Exhibit IV-6 lists leading providers of ECs and the total sales volumes of merchandise.

The volumes shown represent sales generated by ECs. The catalogs can take many forms. They include an on-line listing of products maintained by the supplier that the customer can dial. They include on-line databases that are maintained by third-parties that buyers can dial. They also include CD ROM or diskette delivered catalogs.

a. Number of Electronic Business-to-Business Catalog Titles

Out of the approximately 6,000 business-to-business catalog titles, INPUT estimates that there are approximately 200 to 300 that are electronic, either delivered by CD ROM or on-line. Two-thirds of the EC titles are single-vendor catalogs, the other third are multivendor and are constructed by a manufacturer as a sales tool.

ECs are of both types: multi- and single-vendor. INPUT estimates there are twice as many single-vendor EC titles as there are multivendor titles.

Exhibit IV-6

Merchandise Sales Volumes of Business-to-Business

Provider Name	Annualized Catalog Sales Volume (\$ Millions)
Multi-vendor Providers	
Baker & Taylor	700
W.W. Grainger	500
McKesson	7,000
Baxter	5,000
Triad Systems Corp.	10,000
Pubnet	100
Automated Cat Services	100
INFO Enterprises	100
ViewPoint	0
Distribution Sciences	10
AutoInfo	2,000
GEIS-shocs	2,000
McGraw-Hill/Sweets	0
Airinc	1,000
AcuSport	25
DoD/DLA	670
DoD/ITABB	1,000
GSA	2,000
Other	20,000
Subtotal	52,105
Single Vendor Providers	
Digital Equipment Corp.	1,800
Kodak	1,000
IBM Direct	400
Other	8,000
Subtotal	11,200
Grand Total	63,305

Very few business-to-business ECs (100 or less) list the products of several vendors.

Of the ECs that have ordering capability (via EDI or some similar network means), most again will be the single-vendor variety (such as Digital's DEC Direct). Very few multivendor catalogs have ordering capability. The reasons for this are outlined in the next chapter.

b. Leading Segments of Electronic Business-to-Business Catalogs

Based on a survey of current ECs, the survey of 90+ distributor associations and interviews with EC providers, the following segments are the most notable areas using or about to use ECs.

i. General Business Supplies

Buyer: business

Seller: distributor

- Office and stationery supplies
- Computer software and equipment.
 - Notable in this segment are CD ROM software catalogs where the product itself (computer software) is delivered on the CD ROM. Buyers can "test drive" the software before buying. If they buy, they call the software vendor, make a credit card purchase, and the vendor gives them a password that will allow the buyer to download and officially register the software.

ii. Retail

Buyer: retailer

Seller: distributor, manufacturer

- Books and magazine subscriptions
- Shoes
- Sporting goods
- Music products (CDs, tapes)

- Auto parts
- Marine hardware (including boat brokerage)

iii. Manufacturing

Buyer: manufacturer, service provider

Seller: manufacturer, distributor

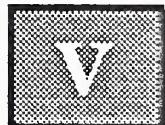
- Graphics, printing and paper supplies
- Semiconductors and electronic components
- Pharmaceuticals and medical supplies
- Construction materials and hardware accessories
- Airplane parts and supplies
- Electric motors
- Food service equipment
- Industrial machinery

c. Bulletin Boards

A related area to ECs are bulletin boards that list items for sale or wanted. The former kind (items for sale) are at this time principally consumer-to-consumer type bulletin boards informally maintained over such networks as the INTERNET.

The latter, (items wanted), is more of a real business opportunity. The federal government is putting together a number of bulletin boards in this style. The idea is to make government Request For Quote (RFQ) and Request For Proposal (RFP) opportunities accessible to hundreds of thousands of companies, big and small alike.

RFQ and RFP bulletin boards can be considered "reverse ECs." Instead of sellers listing products, the buyers list them. Because of this, a credit check on the buyers would not apply in this circumstance.



Catalog Industry Players

This chapter identifies the companies involved in producing Electronic Catalogs (ECs). Because some EC publishers hail from the traditional print catalog industry, our survey includes the print industry participants as well as the strictly electronic.

Key points:

- The EC industry is very new, with many diversified companies (big and small) offering ECs. Companies producing ECs today have differing backgrounds.
- Three basic kinds of companies make ECs:
 - The manufacturer/distributor who sells product via the EC
 - A traditional, print catalog producer
 - A company that is new to the catalog industry but brings expertise in information technology.
- A handful of companies share the characteristics of all three kinds of companies.
- There is no standard way of doing business to create an EC (as there is, by comparison, in the print catalog industry). Some E-catalog producers are simply contractors who produce a catalog for a fee (similar to a printer that prints a paper catalog). Others produce the catalog and sell the use of the catalog to merchandise buyers.

A

Industry Overview

To better grasp the different companies involved in or likely to be involved in producing ECs, it is useful to distinguish three types of

companies. While these distinctions are arbitrary and not mutually exclusive, they give light as to the origins of the catalog industry participants today.

The three categories of companies that construct catalogs are:

- Manufacturers and distributors that market their products through catalogs
- Traditional catalog and direct marketing service providers
- Nontraditional catalog providers

Manufacturers and distributors publish, send and/or make available catalogs to their customers. The catalogs contain a list of their products. Often, these manufacturers and distributors use the services and products of the traditional catalog service providers and the information technology providers.

Traditional catalog service providers, as their name suggests, have been around longer than the information technology providers. They are principally focused on producing print catalogs. As it is a \$25 billion business and they have their hands full. Some of the major players in this group are offering electronic services.

Nontraditional catalog providers have recently come on the scene. They are an assortment of large information technology/service providers (such as Sterling Software, GE Information Services, Motorola) and start-up entrepreneurship (such as Vertical Technologies, Automated Catalog Services and Distribution Sciences). They have the technology and expertise in putting catalog information in electronic form, but their understanding of the catalog market has to catch up with that of the traditional players.

EC producers are to be found in all three groups along with, several companies found to belong to all three as well (or at least two). These companies, more than the others, are the most advanced in providing ECs.

Companies in the overlap category are:

Digital Equipment Corporation

IBM

Motorola

Kodak

RR Donnelley

McGraw Hill

General Electric

Dun & Bradstreet

B

Manufacturers and Distributors that Market through Catalogs

1. Overview

This is the core group of EC purveyors.

Note: Because this report focuses exclusively on business-to-business catalogs, the consumer catalog purveyors are not listed. These include such groups as pure consumer catalog purveyors (Land's End, Spiegel, Lillian Vernon, Blair Corp., etc.), the catalog/retailers (such as JC Penney, Williams-Sonoma, and The Sharper Image), and television marketers (QVC Network, Home Shopping Network, National Media Corp., and Regal Communications Corp.).

Exhibit V-1 lists the key business-to-business catalog makers as ranked by Catalog Age. This group includes purveyors of both paper and ECs.

2. Profiles of Electronic Catalog Purveyors that Are Manufacturers and Distributors

The following are profiles of catalogs that are operated by manufacturers or distributors.

Exhibit V-1

Key Business Catalog Providers

- DEC Direct
- Omega Scientific
- Premier Industrial
- IBM Direct
- Henry Schein
- Inmac
- MicroWarehouse
- AARP
- Borland International
- Reliable Corp.
- Apple Computer
- Global
- Insight Distribution Network
- Misco
- Black Box
- NASCO International
- Egghead
- Moore Business Systems
- Fastmicro
- MidWest Micro
- Mac and Moore
- Central Purchasing
- Scholastic Books
- Dell Computer
- Deluxe Corp
- Everex Computer
- Viking Office Products
- Quill Corp.
- McCaster Carr
- CompuAdd
- NEBS
- Zeos International
- Computer Discount Warehouse
- WearGuard
- PC Connection
- Day-Timers
- Northgate Computer
- Lab Safety Supply
- America's Pharmacy
- Northern Hydraulic
- Executive Greetings
- Safeguard Business
- Infotel
- Myron Manufacturing
- Kaiser & Kraft
- Multiple Zones International

Source: Catalog Age

a. Wilco

Catalog Name: Wilco Electronic Catalog

Industry Segment/Products: Locksmith supplies

Single/Multivendor: Multi

Format: Floppy diskette

Ordering Capability: Yes

Price: Free to Wilco customers

Contact Name: Bob Anderson

Telephone Number: 510-652-8522

Description: Wilco is a regional distributor of locksmith supplies based in Oakland, CA. Wilco contracted with Vertical Technologies (Concord, CA—see accompanying profile) to produce a catalog on diskette of Wilco's product line. The EC lists 18,000 products (the most popular products of Wilco's 32,000+ product line). The diskette requires at least a 386 PC with DOS (but runs better on faster processors with Windows). The software allows the catalog user to browse products and create a purchase order. The user prints the purchase order (PO) and then sends it by facsimile to Wilco. It is also possible for the user to send the PO directly from the PC via modem—even in X12 formats. No customer has done this yet, however, as the catalog has been available only for two months (launched in October, 1993)

b. Brodart Co.

Catalog Name: Book Express Plus

Industry Segment/Products: Books

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Yes

Price: \$50 per month minimum

Description: A database system that provides technical support to libraries for acquisitions. The database contains references to more than 1 million English-language monographs published by US. trade publishers. Users can place orders for items on-line directly to Brodart and can also perform fund accounting.

c. Digital Equipment Corporation

Catalog Name: DEC Direct

Industry Segment/Products: Computer equipment and software

Single/Multivendor: Single

Format: On-line

Ordering Capability: Yes

Price: Free

d. Baker & Taylor Books

Catalog Name: Baker & Taylor Books

Industry Segment/Products: Books

Single/Multivendor: Multi

Format: CD ROM, on-line

Ordering Capability: Yes

Price: Monthly subscription fees vary by options selected

Description: Provides technical support to libraries for acquisitions. Contains about 800,000 citations, primarily to monographs in print or to be published in the U.S. Information on each item includes title, author, publisher, ISBN, Library of Congress Card Number, title status, binding, education, volume and list price. Users can place orders on-line directly to Baker & Taylor, or to other vendors, and inquire about open orders, perform fund accounting and generate a variety of management reports.

e. Airinc/American Transport Association

Catalog Name: Spec2000

Industry Segment/Products: Airplane parts and supplies

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Yes

Description: Allows airline companies to order replacement parts and fuel when needed at airport facilities. All major airlines (passenger, freight and couriers) of the world (about 80) use Spec2000. Major suppliers to airlines are listed.

f. AutoInfo

Catalog Name: Parts Locator Service

Industry Segment/Products: Used auto parts

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Yes

Contact Name: Jason Bacher

Telephone Number: 201-703-0500

Description: An on-line database of used auto parts for the automobile casualty insurance industry. Data are compiled from 400 auto parts salvage yards.

C

Traditional Catalog Service Providers

The traditional catalog industry is composed of:

- Printers, who manufacture the print catalogs
- Publishers (typically associated with trade magazines)
- Other service providers
 - Credit card and information processing service providers that are specialized for catalog order processing
 - Computer service providers related to catalog and direct marketing
 - Catalog software vendors
 - List brokers/providers, which covers a wide spectrum of companies and sources
 - Industry watchers, including the catalog trade press, industry associations and research consultants

Following are the leading companies within these five groups.

1. Catalog Printers

Printers are typically subcontracted by the retailer, distributor or manufacturer who wants the catalog published. Only the largest printers will actually publish (therefore maintaining copyright to) catalogs for their own purposes.

- American Signature
- World Color Press
- RR Donnelley
- Direct Media
- Noll Printing Company Inc.
- Perry Printing Corporation
- Ringier America
- Quad/Graphics
- Spencer Press
- Holladay-Tyler Incorporated

2. Publishers

These companies publish (and "own") catalogs. Usually these catalogs are financed through advertising (paid for by vendors) and per copy sales of the catalog.

McGraw-Hill

Cahners

D&B

Following are examples of ECs produced by traditional print publishers.

a. Sweets Electronic Publishing (a McGraw-Hill company)

Catalog Name: SweetSource

Industry Segment/Products: Building and construction materials and accessories

Single/Multivendor: Multi

Format: CD ROM

Ordering Capability: No; planned

Price: Free to qualified professionals; \$200 per year

Contact Name: Julie Kienitz, Marketing Manager

Telephone Number: 616-732-5560

Description: A CD ROM that contains the product catalogs of over 600 manufacturers of building and construction materials and accessories. Fifty (50) manufacturers are being added per update (occurring once per quarter). Contains scanned images of products, parametric drawings of products and textual information. At this point, the CD ROM Sweets catalog is only one-third the size of the printed Sweets catalog.

b. Thomas Publishing Company, Inc.

Catalog Name: Thomas New Industrial Products

Industry Segment/Products: Industrial products

Single/Multivendor: Multi

Format: On-line

Ordering Capability: No

Price: Per DIALOG fee structures

Description: Contains descriptive and technical information on more than 70,000 new worldwide industrial products and systems. Includes product and trade name, model numbers, SIC code, features, prices and features. Also includes manufacturer and dealer names, addresses and telephone numbers.

c. Cahners Technical Information Service

Catalog Name: Computer-aided Product Selection (CAPS)

Industry Segment/Products: Semiconductors

Single/Multivendor: Multi

Format: CD ROM

Ordering Capability: No

Price: \$7,950

Description: Contains specifications, identification data and full-text images of manufacturers' data sheets for more than 550,000 integrated circuits and semiconductors from approximately 500 worldwide manufacturers. Also provides specifications and identification data for more than 100,000 discontinued and obsolete components. Includes part name, description, military and defense electronics supply center part numbers, price and other information. Users can search by component function and technical characteristics and can retrieve and print manufacturers' data sheets for individual components.

3. Other Service Providers

Most of the service providers in this category are focused on the consumer segments of catalog and direct market marketing.

a. Credit Card and Information Processing Service Bureaus

These companies support the order processing function of catalog purveyors. They are more focused on the consumer catalog and consumer direct market segment than the business-to-business. Business-to-business order processing is offered.

DMGT

Little & Company

b. Computer Service Providers

These companies process and message list data for mailers.

CMS

Metromail (RR Donnelley & Sons)

c. Catalog Software Vendors

These companies cater directly to direct marketers, database marketers and catalog order takers. Their software creates databases of buyer names, assists in telephone or direct mail order taking and in mailings. These vendors are different from the software vendors in the information technology group because

they specialize in servicing the traditional (typically, direct mail (paper) catalog mailers.

Sigma Corporation

Smith-Gardner & Associates

Nashbar/Associates, Inc.

d. List Brokers and Providers

This includes a lot of companies. There are specific list brokers. Also, any magazine publisher or professional/trade association will sell its subscriber or membership list.

BellSouth Advertising & Publishing Corp.

Direct Media

TCI TV List Management

Ziff-Davis List Services

e. Industry Watchers

Industry watchers are good sources of information on the players and dynamics of the catalog industry.

- Direct Marketing Association—Very large well organized and funded trade association of all companies (service providers as well as manufacturing/distributors) involved in the catalog and direct marketing business.
- Catalog Age—The bible of the catalog industry.
- SRDS—Standard Rate and Data Service lists all magazines, their circulation and their advertising rates. A major resource to direct marketers, list buyers.
- Information Authorities—A market consultancy for catalogers.
- Greyhouse Publishing, Lakeville, CT—Directory of Business-to-Business Publishing, 203-435-0868, Dick Gottleib

D

Nontraditional Electronic Catalog Service Providers

Several companies that are new to the catalog industry are offering catalog services. These companies may be established companies in other industries or start-up ventures.

These companies offer ECs in two basic ways:

They simply help a distributor or manufacturer produce an EC which the distributor/manufacturer distributes to its customers (Vertical Technologies and Automated Catalog Services are examples of this kind of E-catalog service provider)

They produce the catalog themselves and then resell it in their services (GE Information Services and Triad are examples of this kind).

Most of the companies entering the catalog industry are coming from the information technology industry and bring an expertise in database technologies.

1. Information Technology Vendors

Information technology providers include software vendors (e.g., Microsoft, Computer Associates), hardware vendors (e.g., IBM, Apple Computer), and service providers (e.g., First Data Resources, Anderson Consulting, Pacific Bell). Several IT companies are either beginning to offer or are planning to offer EC services.

GE Information Services

QRS Quick Response Services (partly owned by IBM)

Sterling Software Inc.

Triad Data Systems

Motorola

a. Triad Systems Corporation

Catalog Name: LaserCat

Industry Segment/Products: Auto parts

Single/Multivendor: Multi

Format: CD ROM, on-line

Ordering Capability: Yes

Price: \$4,450; monthly updates \$88

Contact Name: James Porter

Description: Contains information on more than 1.6 million automotive parts and prices for domestic and foreign vehicles built since 1986. Includes part descriptions and numbers, manufacturer, prices and related parts information. Software allows users to search by make, model and year of vehicle. Information is obtained from more than 2,000 catalogs from more than 370 manufacturers.

b. INFO Enterprises (a Motorola Company)

Catalog Name: Engenius

Industry Segment/Products: Semiconductors and electronic components

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Not yet

Price: \$49/month for users; manufacturers pay for listing products

Description: Semiconductor component manufacturers and distributors (including Motorola, Texas Instruments, Hitachi, and Amp) give INFO Enterprises (IE) their technical product "databooks" and IE puts them on-line. Design engineers, purchasing agents as well as other electronic vendors and distributors use the service to check product specifications. One of the chief value adds that INFO Enterprises brings is being able to disseminate technical information on new and upgrade products faster than any either paper or CD ROM distribution. In the electronics industry where "time-to-market" is the rallying cry, speed is of the essence. Product lives are frequently less than 12

months. INFO Enterprises can take out at least 12 weeks from the typical paper distribution cycle and 23 weeks from a CD ROM cycle.

c. GE Information Services

Catalog Name: UPC*Express

Industry Segment/Products: Apparel/retail

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Yes

Contact Name: Shelley Schwartz

Telephone Number: 602-298-0786

Description: Allows apparel and merchandise manufacturers (who code their merchandise with UPC "bar" codes) to electronically establish and maintain the codes for retailers to use. Not necessarily a procurement catalog.

d. QRS Quick Response Services

Catalog Name: QRS UPC Catalog

Industry Segment/Products: Apparel/retail

Single/Multivendor: Multi

Format: On-line

Ordering Capability: Yes

Description: Identical in function to GE Information Services'.

e. Sterling Software

Catalog name: COMMERCE: Catalog

Industry Segment/Products: Retail, grocery, hardlines and health care industries where UPC codes are commonly used.

Single/Multivendor: Features UPC information enabling trading partners to access correct UPC codes in EDI communication

Format: On-line; Windows environment

Ordering Capability: Yes

Contact name: Rand Walker

Telephone number: (614) 793-7495

2. Start-Up Electronic Catalog Service Entrepreneurs

These are new companies recently founded to specifically help companies (usually distributors or manufacturers) create ECs.

Vertical Technologies (Concord, CA)

Automated Catalog Services (Wayne, PA)

Distribution Sciences Corporation (Hillsboro, OR)

Eclat (Walnut Creek, CA)

a. Automated Catalog Services

Industry Segment/Products: Food services equipment, other distributors

Single/Multivendor: Multi

Format: CD ROM

Ordering Capability: Yes

Price: \$600-\$1,600 per year; manufacturers pay \$1,100-\$25,000 to list products

Contact Name: Steven Katz

Telephone Number: 215-687-7500

Description: Lists food service equipment products (refrigerators, stoves, freezers, milkshake machines, etc.) of more than 220 manufacturers. Currently, 500 dealers, distributors and chains subscribe.

b. Vertical Technologies

Catalog Name: (many names; determined by customer)

Industry Segment/Products: Hardware, instrument, and electronic distributors; paper catalog publishers; industrial product manufacturers

Single/Multivendor: Multi

Format: Floppy diskette

Ordering Capability: Yes

Price: \$4,000-\$4,500 per production job; minimum run 500

Contact Name: Tom Gonzales, CEO

Telephone Number: 510-356-2800

Description: Vertical Technologies is a small privately held company. Tom (Sr.) is CEO, his son, Tom (Jr.) is president. Their strategy is to become the largest printer of ECs in the country. Vertical Technologies produces ECs either on diskettes or CD ROM for single companies. The company pays for production just as in the case of paper catalogs. Customers of Vertical Technologies are manufacturers and distributors. Vertical Technologies converts a company's product catalog into electronic form. Its software is very good at data compression and gets a 200:1 ratio of compression. Its most popular format so far is diskettes, not CD ROM. It has gotten 21,000 product descriptions with picture and advertising on a single diskette. Diskettes are desired by most customers because the customers of the customers (the final users of the catalog) do not have CD ROM drives. The final users are not sophisticated computer users. They will often only have a small (-386 running DOS) computer.

A typical production job costs \$4,000 to \$4,500. Costs per disk range from \$8.50 to \$3.00 depending on production-run quantity. Minimum run is 500 copies. Some customers are producing 100,000 per month. See Appendix A, Interview 10 for more details.

3. Other Vendors

Other companies provide EC services. The following companies are leaders in CD ROM mastering software.

Dataware

Knowledge Set

(Blank)



Conclusions and Recommendations

The use of ECs for business-to-business sales of merchandise, excluding consumer sales, is a very new distribution channel. At this point, there are no standards established in this marketplace for using or for producing ECs. There are several uses of ECs, distinct formats and kinds of providers in this marketplace at this time. ECs may be used for procurement or information gathering. They may be provided on a diskette, CD ROM or on-line. They may take the form of the manufacturer single vendor transaction or a distributor multivendor transaction. Some providers deal with traditional catalogs/direct marketing industry, others come from the information technology industry and even more diverse offerings will appear in the future.

All of these issues suggest a new market with a diverse beginning, merging into an industry where early entrance and investment may take on considerable risk (i.e. a market which may fail to materialize), and at the same time, enjoying the opportunity afforded by early entrance and the ability to capture dominant market share.

However, the time is ripe—the critical mass does exist in this marketplace and all sectors of the industry are technology capable to receive ECs.

The financial opportunity in this area is staggering in terms of the amount of business conducted in the U.S. last year, with the attributable catalogs portion being fairly substantial. EC is only a small slice of the overall distribution marketplace and, therefore, there is much opportunity to grow in that direction.

However, the size of the revenues being generated by EC providers is less certain. This will obviously be an even smaller proportion.

Undoubtedly, interest in electronic commerce and the various types of technologies collected under the umbrella of electronic commerce will promote the growth of this marketplace. Examples of its increasing popularity include the use of ECs as the rollout product demonstrated on CommerceNet. ECs will be used by the consumer market and small businesses in this fashion and the use of the Internet and other publicly available networks, such as CommerceNet, will certainly increase the general interest in this type of purchasing. With that, interest in business-to-business ECs should certainly increase as well. Players in the EC marketplace are of several types including;

Manufacturers or distributors selling products via ECs

Traditional catalog producers

Companies new to the catalog industry, but with interest and expertise in information technologies.

Since there is no standard way of doing business to create an EC, variations will appear. Some producers simply are contractors who produce a catalog for a fee and others produce the catalog (to sell the use of that catalog) to merchandise buyers.

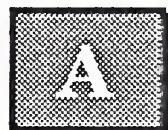
The various players in this marketplace in each category were described in the report. One company that produces ECs described how they convert a company's product catalog into electronic form using compression technologies and placing them on CD ROMs. A typical production job costs \$4,000 to \$4,500. Costs per disk range from \$8.50 to \$300 depending on production run quantity. A minimum run is 500 copies and so some customers are producing 100,000 per month with no ongoing maintenance fee with this technology.

This particular vendor uses proprietary software for creating catalogs (and this particular manufacturer sees no competition, believes they are doing something quite unique and can see how the product may become a front end to an EDI system).

One hypothetical case then could be created describing a typical production job of CD ROM catalogs, say at an average of \$5.00 per disk, producing up to 100,000 per month for one customer, runs \$500 to \$1000 monthly income plus a \$4,000 upfront production charge. Multiply this by some number of customers, say 100, and

this can provide a substantial revenue stream for a small company.

It is very difficult to size this market at this time. However, using these figures, if the average disk was about \$5.00 to the customer and, at minimum, 500 copies were made, the average customer in this small company could generate \$30,000 in revenues annually and, if that was multiplied by 100 customers, the company could be deriving \$3 million in revenues annually. If there were at least 5 vendors producing at the same time (a totally hypothetical, but not unrealistic number), the market could be approximately \$15 million. That would be the market size based on vendor revenues with extremely conservative figures.



Unstructured Interviews

The following are transcripts of interviews of electronic catalog providers.

A

Gene Ballew

Gene Ballew
Systems Integrator/Consultant,
IS Systems for Distribution Industry
Karney, Missouri
Tel: 816-635-4897

"People in distribution industries are catalog intensive. Every distribution industry is ripe for electronic catalogs."

He sees a big opportunity for electronic catalogs in the distribution industries. He is working with a partner in Portland, Oregon to develop a catalog in the paper distribution industry. He is working with a paper distributor today (owned by a paper manufacturer) to develop an EDI system with the distributor's customers. He is also working with a small bank (\$50 million in assets) in making an electronic catalog for them. He is also working with a distributor/manufacturer of electric motors (for garage door openers, whirlpool/spa motors, etc.) in making an electronic catalog.

Here are his points about electronic catalogs:

The Business Case for Electronic Catalogs:

Customers have no central source to turn to for information about all products. There is a tremendous amount of cross-referential information on products that needs to be organized and made available. Catalogs will provide this. Also, information about

products (including price but other information as well such as technical info, availability, new products, etc.) changes so fast that paper catalogs get out of date very soon and are not viable.

Electronic catalogs must address the two phases of catalog use: product information gathering and procurement.

General Issues of Today's Distribution Environment:

The typical distribution industry, and distribution industries are almost identical across industries (electric motors, food, paper, etc.), consists of the manufacturer, the distributor (sometimes called merchant) and the customer. Sometimes distributors are owned by the manufacturer.

Nobody in the chain (manufacturer, distributor, customer) trusts the other. This has impeded the adoption of electronic data interchange and other electronic commerce systems.

Also, manufacturers and distributors are mainframe shops while customers are PC shops. This too has impeded the adoption of electronic systems. The two camps are looking for a common solution.

Distribution markets are typically regionalized. For example, in the paper industry, there are approximately 25-35 regional markets for paper. The San Francisco/Sacramento region would be one. The Los Angeles region another. San Diego a third, and so on. Every customer within a 150 mile radius uses a catalog. This has important consequences for electronic catalog design, especially in the necessary customization aspects as explained below.

Many forward thinking distributors are trying to transfer from being distributors to being marketers. That is, they don't want to own the warehouse nor the delivery trucks. They want to outsource/subcontract these services and just provide the information clearinghouse function. The problem is, these companies' cultures and information systems are set up for traditional distribution, not marketing. They are imbued with the distribution mentality and work practices. They don't think like nor have the necessary information on hand to be marketers. To be good marketers, they need to know demographic and buying-patterns/trends information about their customers. A paper

distributor, for example, needs to know about its customers (printing companies) how many presses each customer has, what kinds of stock and in what volumes they buy, what suppliers the customer buys from etc. Only with this kind of information can a company be an effective marketing company. Today's distribution companies don't have this info. They only have inventory info and can take orders. They simply REACT to customers. Wal Mart is a good example of a distributor who knows its customers. They know their customers, know sales trends and then sell to the trends. (Transaction databases are the flip side of catalogs. However, a catalog can provide transaction information. For example, INFO Enterprises keeps a record of who looks at what products on the catalog. Catalogs are "pre buy" tools; transaction data bases are "post buy" tools.)

Business Issues or Electronic Catalogs

Sooner or later, there will be electronic catalogs for all kinds of industries. Products will be traded in a fair value (commodity) manner. Perhaps access to the catalogs will be via cable television with hundreds of channels.

Catalogs serve two purposes: (1) a way of distributing information to customers (2) a conduit by which customers can purchase products. These two purposes correspond to two distinct phases; (1) product information gathering, where a design engineer or otherwise some "idea" person is looking for suitable materials with which to build a product and (2) procurement, where a procurement official must make a bulk purchase of materials and try to get the best price breaks. Users of catalogs, therefore, are two different people with different interests and different kinds of authority.

A key issue is how electronic catalogs will come into existence. Neither distributor nor manufacturer is incented to make an industry wide catalog (where all products from all manufacturers are listed).

Customers should subscribe to the catalog. Pay an access fee.

Note: all the information that would go into a catalog is public domain information.

Manufacturers and distributors should look beyond simply competing on price. Yes, catalogs will probably erode margins. But the manufacturers and distributors should look to provide customers with other value added services.

Catalog Architecture

There should be two levels to a catalog:

(1) General product information level without prices. This lists all products, their features, manufacturers, identification codes (bar codes, UPC codes, etc.), availability, etc.

(2) Pricing level. This level could be "customized" for particular regions. First of all, there could be suggested prices and then negotiated "street prices" that are specific to each manufacturer-customer relationship.

Customization will take place on a regional level. Only those manufacturers that serve a particular region would be listed on the catalog. In addition, pricing would be customized as explained above.

There would be two types of catalogs: a single universal catalog where all manufacturers list all their products and then regional catalogs that list products available only in the given region. The regional databases would be updated by the universal database.

The catalogs would work in conjunction (in a client/server mode) with the systems at the customer site. Today, there are three major alternatives/possibilities: (1) the customer just has some kind of interface software (could be EDI translation software) that allows it access to the regional database where it can download info (2) the customer not only downloads the electronic information but directs it to paper document printers on-site (such as Xerox Docutech machines that can print 300-400 page documents and 300 copies each—good for small catalog distribution, for catalogs of 800 pages or more and that require 3,000 copies or more, you need to go to a web press) (3) CD-ROM distribution of catalogs (which he thinks is good for software distribution).

Catalog updates come from manufacturers. Customers update their internal systems as needed. The updates should just send

down the changed information: not the whole data set in the catalog.

Architecture must use client/server design. One big problem today that is inhibiting the proliferation of electronic systems between distributors and their customers is that the distributors operate in monolithic mainframe environments and the customers are PC environments. The two environments represent two fundamentally different ways of doing business. Mainframes have to go away.

Manufacturers should be the originators of product identification numbers and codes (not the distributors).

Industries Adopting Electronic Catalogs

- Paper industry
- Graphics and Printing Industries
- Aviation
- Marine hardware (including boat brokerage)
- Electric motor

B

Jeffrey Masich

Jeffrey Masich
VP Channel Finance
MicroAge, Inc.
Phoenix, AZ
Tel: 602-968-3168

Chairman of the Credit Interchange Subcommittee, Computing Technology Industry Association (formerly Association of Business Computer Distributors)

His subcommittee is putting together a database of credit histories of resellers and other customers of computer distributors. The purpose is for the distributor to be able to give credit to a customer very quickly (within six hours).

The database is "still in the formation stage." Masich expects to make a press announcement sometime in late November. The committee is also meeting, in Chicago, sometime in November to discuss the progress. No documentation is available to the outside public, according to Masich.

Masich was very resistant to the idea of a bank. He said that he didn't think there was a match because (1) he thought the bank would slow down the ability for credit to be approved (all the documentation would have to be passed through the bank) and (2) that already there are slim margins in the industry and nobody will want to pay an extra fee to the bank for credit services.

He said that the bank is welcome to contact the manufacturers directly and see if they are interested. The list of members of the CTIA members may or may not be available.

Masich said that his company, MicroAge as well as most distributors, already deal with banks and financial institutions to deal with credit and factoring issues. When MicroAge sells to a customer, it invoices a bank which in turn invoices the customer or customer's bank. Masich said, "We deal with all of the banks of the manufacturers (I am pretty sure he said manufacturers) such as ITT, Nation's Bank, ATT Capital and IBM Credit."

C**Shelley Schwartz**

Shelley Schwartz,
UPC Product Manager
GEIS
Tel: 602-298-0786

GEIS has 200 vendors and 35 others (retailers, distributors, label manufacturers) on their UPC catalog. Starting up catalogs in other areas:

- Shoe and sport talk
 - Similar to Pubnet
 - Shoe retailers use PC software to log onto shoe catalog; after selecting what they want to order, the system creates a purchase order (in X12 format) and sends it to GEIS' EDI*Express all in the same session

- GEIS has several hundred retailers for this NWDA (pharmaceutical)
- Working with a hardgoods association
- Microcomputer industry (manufacturers, distributors, retailers)
- Will get into grocery sometime (GEIS big in grocery in Canada)

Competition

- IRI
- DRI
- Company specific catalogs (Motorola, Anderson Windows - building materials)
- Triad

QRS's revenue: Shelley guesses that they make 1-1/2 to 2 million, maybe three on catalog alone, the rest is the royalty from Advantis and revenue from leases back to the company

Shelley thinks catalogs are the way of the future and expects to see rapid growth. Catalogs are growing in functionality from being simply a naming tool to a complete information tool; more fields are being added to the catalogs (information regarding warranty, pricing terms, trade names, packaging information, and more)

Catalog industries:

- Retail
 - Apparel
 - Shoes
 - Grocery
 - Books
 - Microcomputers

- Auto parts
- Hardware/building materials
- Engineering building materials (for engineering companies)
electronics components, semiconductors
- CAP (cahnerns?)
- Pipeline transport

GEIS' catalogs as of today

- UPC (informational)
- Shoe and sport talk (order capability)
- Pubnet (order capability)
- NWDA (informational)
- Australian Record Industry
- Australian books
- National Houseware Manufacturers Assoc. (informational)
- Motor Equipment Manufacturers Assoc.

Individual manufacturers/distributors

- McKesson
- Anderson Windows
- GE Aircraft

The question is: "will people make catalogs on their own or as a group?" This parallels the way EDI grew up. Individual companies had their own proprietary systems. Then started making industry standards. Same today with catalogs. First, manufacturers make their own. The result is that customers have to have a separate system for each proprietary catalog.

Today's electronic catalogs each have their own unique purposes:

- Pharmaceuticals • Price changes
- Books • Prices
- Housewares • Consumer shelf space management
- Other hard goods • Warehouse storage space requirements
- Apparel • Information scanning at the POS

D

Julie Kienitz

Julie Kienitz
Marketing Manager
Sweets Electronic Publishing
Wholly-owned Subsidiary of McGraw-Hill
Grand Rapids, Michigan
Tel: 616-732-5560

Company Background

Sweets Electronic Publishing was founded in 1978 as Computer Aided Planning. It produced software that assisted companies in contract furniture specification (specifying furniture for office environments). In 1987, the company launched its first CDROM product, a catalog of the office furniture from 40 different manufacturers. In 1990 McGraw-Hill acquired CAP and renamed the company, Sweets Electronic Publishing. McGraw-Hill assigned the group with placing the McGraw Hill Sweets Catalog into CD-ROM format. The Sweets Catalog is a 16 volume book set that contains the catalogs and product literature to almost 1,800 vendors of building and construction materials. The Sweets Catalog is an industry standard reference guide for architects, engineers, building contractors, facilities managers and designers.

Products

Sweets Electronic Publishing has two products to date:

Furniture Catalog: contains the catalogs of 40 furniture manufacturers. Includes product specifications. Information

can be downloaded into CAD systems for space planning purposes.

SweetSource: The Sweets Catalog in CD-ROM format. The product was launched in April 1993 and by this fall has its third disc out. It currently has about 113 of the material of the printed Sweets Catalog. Contains the products of over 600 manufacturers. 50 manufacturers are being added per disc release (which occurs about once per quarter). SweetSource contains (1) scanned images of products (2) CAD parametric drawings of the products and (3) textual information. The CDROM catalog is given free to people who qualify to receive the Sweets printed catalog. To others, Sweets charges \$200 per year for a subscription. There is no ordering capability.

Markets

Sweets Electronic Publishing sells to two markets.

- Furniture
- Building and construction materials

Strategy

Sweets has a 700 person advisory council made up of its catalog users. The council give feedback on to the usability of the catalog and voices needs. One need that is voiced and which Sweets has plans to fulfill is the ability for users to download specification information (that can be loaded into design software).

Ordering capability (via EDI) will come eventually, according to Kienitz. The first priority is to build the catalog with all manufacturers.

Competitors

Eclat (Concord, CA) distributes furniture on floppy discs

Cahners Publishing its EPIC product builds CD-ROM catalogs for typically individual companies. Sweets wants to set the standard for industry-wide (multi-vendor) electronic catalogs.

E**Paul Miller**

Paul Miller
Sr. News Editor
Catalog Age
Stamford, CT
Tel: 203-358-9900 x253

"The market for business-to-business catalogs is impossible to quantify."

Every major corporation (such as IBM, etc.) has a catalog of its products. Should their revenues (IBM's \$60 billion) be counted as b-to-b catalog revenues?

There are no statistics on the b-to-b catalog market.

Miller's hunch is that the b-to-b market (if you could quantify it) would be bigger than the consumer catalog market.

DMA's estimate of \$52 billion in catalog sales includes b-to-b. Also, its estimate of 10,000 catalog titles also includes b-to-b.

Examples:

- Automated Catalog Services, Inc. (Wayne, PA), Steven Katz, President food service equipment business
- DEC Direct (Digital Equipment Corporation)

F**INFO Enterprises**

INFO Enterprises

Service

INFO Enterprises constructs on-line databases for specific industry groups. The databases are optimized for providing vast amounts of text, graphical and multimedia information in an structured, easily-accessed format. INFO Enterprises will take 4, text, graphic and other collateral files from companies (who would normally print, bind and publish these in paper book formats) and put it in an electronic structured form. These files

are used by a community of people typically as product reference material.

INFO Enterprises is serving the semiconductor and electronic component industries with a service called Engenius. Semiconductor component manufacturers and distributors (including Motorola, Texas Instruments, Hitachi, and Amp) give INFO Enterprises their technical product "databooks" and IE puts them on-line. Design engineers, purchasing agents, other electronic vendors, and distributors use the service to check product specifications. One of the chief value adds that INFO Enterprises brings is being able to disseminate technical information on new and upgrade products faster than any either paper or CD-ROM distribution. In the electronics industry, where "time-to-market" is the rallying cry, speed is the essence. Product lives are frequently less than 12 months. INFO Enterprises can take out at least 12 weeks from the typical paper distribution cycle and 23 weeks from a CD-ROM cycle.

INFO Enterprises is also launching a service for the legal community. It is putting litigation documentation on-line so that parties involved in litigation can all have easy up to the minute access to material.

Potential Market

In the semiconductor industry:

Users: 750,000 to 1 million design engineers. In four years wants 50% at least to be users. Wants 90% to know about.

Vendors: about 100 major manufacturers, including semiconductors, connectors, passives, models/simulations

Coming Features

E-mail so that design engineers can talk with supplier

Online fulfillment so that the design engineer can request more information (gets it immediately printed out)

Multimedia where the user downloads software (for simulation) or on-line training with full motion video

Online advertising with measurement built in (advertisers will be informed of how many engineers read their ad)

Ordering capability. Is coming but it is not a high priority because the design engineer usually does not have purchasing authority. Can only buy samples. Otherwise it is the procurement officer that makes big purchases.

Revenue Streams

(1) Manufacturer. Per item charge and by number of pages plus charge based on the extent that INFO Enterprises has to massage the data. We give the manufacturer usage statistics including market share of inquiries for a given product category

(2) Subscribers. Three ways of charging.

- Individual—flat fee up to 10 hrs. per month, up to 100 pages printed
- Group—20 or more engineers of a single company; graduated scale
- Distribution fee—for specific software items; a fee of the total price; will come

Access

- Dial up
- Dedicated line
- We will have backbone carriers
- No special software (UNIX, PC, MAC)

Other Markets

We are not restricted to the electrical engineering market. We have expertise in financial services, medical and aeronautics.

Response to Citicorp Idea

We would entertain the conversation with a bank

We have no specific plans for factoring but it is within the capability of the system.

We have people who come from the banking area.

G

Michael Petsky

Mike Petsky
President
Information Authorities
16 Winterberry Loop
West Henrietta, NY 14586
Tel: 716-334-7800

B-to-B Market Size

The business-to-business catalog market size is \$60 billion, in terms of volume of product sales through mail order catalogs.

Of the \$60 billion, about half is "true" catalog sales, the other half is sales from individual manufacturers who happen to have a catalog. There are about 6,000 titles.

This compares to the \$50-\$60 billion in catalog sales on the consumer side with 10,000 titles.

There is a third segment, fund raising.

Total market size for catalog/direct marketing is \$200 billion, he says.

Segments

So the true b-to-b catalog market is about \$30 billion.

This \$30 billion is broken out into three segments of nearly equal sizes:

Office Supplies

Accounts for \$10 billion. Includes computer equipment and software, stationary and office supplies, and office furniture. About \$5 billion is for the computer equipment and software.

Business Services

Accounts for \$10-\$12 billion. Includes communication and information services (studies, seminars, books) freight courier and transportation services, subscription services, mailing lists

Industrial Products

\$10-\$12 billion. Includes all kinds of industrial products, material handling machinery, scientific instruments, medical supplies, etc. Leaders in this segment are Omega Scientific, Black Box, AT&T, Emerson Electric, Premier Industrial Corp., W.W. Grainger. This last segment includes a lot of single-vendor catalog marketers.

Trends in Catalog Industry

Large manufacturers and distributors are spinning off their mail order operations. W.W. Grainger (a nationwide distributor of industrial components based in Skokie, IL) bought Lab Safety Supply (a maker of safety products) in 1992.

List brokers are using EDI to electronically order lists from other brokers.

Directory services may be a big need in the list and catalog industry.

Issues of Electronic Catalogs

Distributing catalogs in an electronic form must meet the following requirements:

- Recipients of the catalogs must have the appropriate computer equipment and expertise to operate the catalogs.
- The product set of the catalog must be sufficiently huge and complex where electronic searching is truly a value added feature.

Instances of Electronic Catalogs

W.W. Grainger has a CD-ROM catalog of its products. It sends out approximately 5,000 copies per year. It does not have ordering capability yet.

The automotive area is a big area for electronic CD-ROM catalogs

H

Thomas Gonzales

Tom Gonzales
CEO
Vertical Technologies, Inc.
1355 Willow Way
Suite 110
Concord, CA 94520
Tel: 510-356-2800
Fax: 510-356-2988

Background

Vertical Technologies is a small privately held company. Tom (Sr.) is CEO, his son, Tom (Jr.) is president. Their strategy is to become the largest printer of electronic catalogs in the country. We want to become the RR Donnelley of electronic catalogs, says Tom Sr.

Service Offering

Vertical Technologies produces electronic catalogs either on diskettes or CD-ROM. It works with a single company as a customer. The company pays it for producing an electronic catalog (just as the company would pay it to print a paper catalog). Customers of vertical technologies are both manufacturers and distributors. Vertical Technologies, therefore, make both single- and multi-vendor catalogs.

Vertical Technologies converts a company's product catalog into electronic form. Its software is very good at data compression and gets a 200:1 ratio of compression. Its most popular format so far is diskettes, not CD-ROM. It has gotten 21,000 product descriptions with pictures and advertising on a single diskette. Diskettes are desired by most customers because the customers of the customers (the final users of the catalogs) do not have CD-ROM drives. The final users are not sophisticated computer users. They often will only have a small (-386 running DOS) computer.

A typical production job costs \$4,000 to \$4,500. Costs per disk range from \$8.50 to \$3.00 depending on production-run quantity.

Minimum run is 500 copies. Some customers are producing 100,000 per month. There is no ongoing maintenance fees.

The software that vertical technologies creates the catalog in is "home brewed." It does not use off the shelf database software such as FoxPro, DBase, Oracle, etc.

While most customers do not stress an ordering capability, Vertical Technologies has a component that allows people to order off of the catalog.

Orders can be created in four ways:

1. Make a facsimile and send via fax (the software interfaces with Delrina's WinFaxPro software. An order can be faxed off without leaving the catalog)
2. Make an X12 formatted file and send (the software allows for some form of EDI translation; probably not as sophisticated as off the shelf EDI translation software)
3. Print out the order on paper and mail it
4. Create an ascii file of the order and send in E-mail or put it into procurement system

The catalog interface runs under Windows.

Allows for extensive cross referencing. Users are able to call up all products of a given category.

Catalog uses UPC codes where available. Proprietary manufacturer product numbers as well.

Catalogs are used for informational and procurement purposes. Gonzales reports that his customers make this distinction. Some catalogs are more for information only. Customers are not interested in the ordering component.

There is an ordering component to the software. It gives the catalog user the ability to create a purchase order. It also archives purchase orders.

Distribution Desktop—A product that is being developed. Allows a catalog user to search on several catalogs simultaneously. The

idea being that several manufacturers will have their own individual catalogs. Distribution Desktop will allow a buyer to search on all catalogs (makes single-vendor catalogs into a virtual multi-vendor catalog).

Customers

Wilco Supply (distributor)

A distributor of locksmith supplies (key blanks, Schlage locks, Master Locks, etc.) Customers of Wilco (locksmiths) have abandoned the Wilco EDI ordering system in favor of ordering off of the electronic catalog.

Howard W. Sams (catalog publisher)

This company produces paper catalogs in many different industry segments including plumbing and heating supplies, paper supplies. It re-sells (under its own label) Vertical Technologies' electronic catalogs. It has VT produce electronic versions of the catalogs it publishes.

Gerald-General Instruments (manufacturer)

Makes converter boxes for cable TV systems and other CATV equipment/components.

Wilkerson Manufacturing (manufacturer)

Makes air filters for clean air environments (hospitals). The company has 700 distributors around the world. It sends electronic catalogs to these distributors. The distributors, in turn, send the catalogs to end users/buyers.

Hamilton Avnet (distributor)

Big distributor of electronic and electrical components. Is in talks with Vertical Technologies.

Competition

Sees no competition. Claims that its software distinguishes it from the rest.

Market Opportunity

Gonzales has no idea how big the market is for this product. He says it staggers the imagination. He says he is getting customers

from all niches. And all customers want exclusivity on the product.

He foresees how the product can become a front end to an EDI system. One customer, Wilco, found that users abandoned their EDI systems in favor of ordering off of the catalog.

Gonzales sees how other capabilities could be added to the catalog to enhance ordering including inventory checks (to see if product is available) and he mentioned explicitly credit checks.

I

Ronald Weiner

Ron Weiner
President
Distribution Sciences Corporation
Hillsboro, OR
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The big potential in electronic catalogs is in software distribution. Retail stores and dealers for software will be eliminated in 2 years. CD-ROM distribution of software will allow people to test drive software before they buy it. They will have 5 free times to boot the software. Then the system locks them out if they don't buy it. There will be CD-ROM libraries for niche markets.

SoftBank (Monterey, CA), Merisel (largest software distributor and descendent of SoftSell), Phoenix Technologies, and Alexander Lords (telephone order taker service bureau) are launching a software catalog. IBM too has launched a software catalog on CD-ROM.

Automatic software registration is becoming a real good source of market data. People install software. At the end, a routine asks the person demographic data. Then the system prepares a report which includes the demographic data as well as a list of all the components of the system. The report is either printed out and sent back to the manufacturer by the user. OR it is automatically transmitted by modem.

Electronic Catalogs

Airplane parts

Boeing's CD-ROM catalog of its airplane parts. Replaces a 40 lb book. The project was originally a joint venture with Knowledge Set (Mountain View, CA software co), British Airways, SunStrand and Boeing. Eventually Boeing just did it by itself. Has ordering capability. Frank Cessna at Boeing is the contact.

Paper

Weiner's company (Distribution Sciences Corporation) is launching a CD-ROM catalog for purchasers of paper. The company collects data made public by all the paper mills in the country. The catalog can allow paper buyers to save thousands to hundreds of thousands of dollars. For example, the catalog saved \$400,000 for Central Point Software in their recent catalog mailing. There are so many variables when buying paper that a buyer cannot review all sources in the traditional way of calling and checking with paper suppliers. Some of the variables are opacity, brightness, availability, acidity/alkalinity, etc. The selection is always a suboptimal choice due to lack of information/time to check all sources. Even RR Donnelley (the printer in the Central Point catalog) couldn't find the best supply of paper.

Paper mills are wanting to get rid of the middle man (distributor).

Weiner's company is selling the catalog directly to printers, ad agencies, and distributors (people who buy paper). At first it was going to try to sell to the whole industry but it saw that this was too time consuming and risky. The plan now is to get some real customers, then go back to the industry as a whole and make the offer.

Distribution Sciences has a venture capital company from San Diego that is financing it.

J

Bob Williams

Bob Williams
VP Operations
Wilco Supply
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Company Background

Wilco is a small regional distributor of locksmith supplies (door locks, keys and key blanks, door closures, building security equipment). It was founded in 1951 by Bob Williams' father who continues to run the company. It has approximately 6,500 active customers, 60% of whom are locksmiths. The rest are institutional buyers, schools, hospitals, hotels. Most of its business is in Northern California. In the last ten years it has gone into Southern California and the Pacific Northwest. It just recently started carrying some auto security products and is distributing these nationally. Wilco has 12 field sales representatives.

Forerunners to the Electronic Catalog

Because its competitors were doing so, Wilco launched an electronic order-entry system in the early eighties. It continues operating today. The system, referred to as "soss" (for stock and order system) is a proprietary system, not standardized EDI. It is made by the turnkey systems vendor Pertec, now owned by Scan Optics. Qualified customers use a computer terminal to dial up the soss system. It allows the customer to check Wilco's available inventory and to place an order.

The system is not used much, according to Mr. Williams. "We had lots of inquiries, but few orders. "Even by giving discounts on orders (ranging from 2 to 5 percent off of the total purchase order amount) customers didn't use it.

Furthermore, the soss system is expensive and difficult to maintain. Wilco is letting the system fade out. Also, Wilco is migrating its company MIS system into a UNIX environment

(and has contracted with Data Systems and Management, a VAR in the distribution industry segment).

The EDI Alternative

Mr. Williams has considered implementing an EDI system and has even received quotes from such EDI vendors as St. Paul Software. However, he sees EDI as perhaps overkill.

It may be sophisticated and elegant but his customers are not computer literate. His customers would not be comfortable with EDI. Even Mr. Williams is leery of the complexities he sees with EDI. "I've learned that unless you're dragged into [EDI], don't go."

He sees the electronic catalog as a much better solution.

The Electronic Catalog Solution

Wilco contracted with Vertical Technologies to produce a catalog on diskette of Wilco's product line. The electronic catalog lists 18,000 products (the most popular products of Wilco's 32,000+ product line). The diskette runs on a -386 PC with DOS. The software allows the catalog user to browse products and to create a purchase order. The user prints the PO and then sends it by facsimile to Wilco. Alternatively, the catalog allows the user to send the PO directly from the PC if the PC has a modem—even in X12 formats. No customer yet has sent it by EDI. But the catalog has been available only for two months (launched in October, 1993)

"The orders come in very clean," according to Mr. Williams. "We're very happy." The orders are clean partly as a result of another feature in the catalog software. Some of the products Wilco distributes have product identification numbers from the manufacturer. These numbers are different than Wilco's own ID numbers. The catalog software cross-references these numbers. The purchase orders that arrive at Wilco use Wilco identification numbers.

The electronic catalogs, only two months out, are a big hit with customers. "We have people clamoring for the electronic catalog," says Mr. Williams. Orders are coming back from it.

Better than EDI

He doesn't mind that he isn't receiving the benefit of EDI—eliminating the re-keying of data. Orders come in quickly. Customers are happy.

"When I give a catalog to a guy he feels he is blessed with something free," says Mr. Williams. Conversely, he is not being threatened with complicated, techno-wizardry of EDI. Locksmiths are not computer oriented. They have a simple PC and a facsimile machine. This is the infrastructure and mindset you have to deal with.

"Electronic catalogs keep business on a delight level," according to Mr. Williams. This is entirely different from the EDI situation where "you are getting wagged by the dog."

Nevertheless, Mr. Williams can see the day when EDI is incorporated into the software's catalog. It could be kept invisible from the customer.

Desired Enhancements

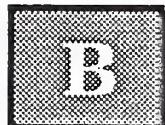
Mr. Williams would like an "open purchase" order capability. The bane of the distribution industry, he says, is the add-on order. The customer thinks of another item that it needs. It asks the distributor to include it with the next shipment. If the catalog would simply accumulate all the orders for a day then dump it at the end of the day, it would be better.

The Future of Distribution

The distributor is becoming more and more an information resource than a holder of inventory. You still make your money on holding the inventory, he says, but "if you can't give the right answer to a customer query, you don't get the order."

With just in time and quick response, distributors are increasingly taking up the inventory. They are being used as the retailer's warehouse—and must pay the inventory carrying costs. Consequently, retailers are calling up all day long. They order more frequently in smaller quantities. This way the retailer doesn't have to hold the inventory.

Systems like the electronic catalog and EDI will certainly bring more efficiency to the distribution business. The whole objective is to work smarter and make fewer errors, says Mr. Williams. The vendors of locks are still old fashioned. Wilco isn't doing EDI with them yet. But the day is coming.



Questionnaire for Association Interviews

Hello, may I please speak with executive director/public relations director/technology director of the [organization's name]?

Hello, my name is _____ and I am calling from INPUT. We are conducting a market survey of trade associations to determine if various industries are constructing or planning to construct electronic catalogs for the products within their industry. If you will take just a few minutes, we will gladly send to you an executive overview of our findings in this study.

1. In your industry, how important are catalogs (that are printed on paper and made available to buyers) as a sales medium?

- _____ Very important
- _____ Somewhat important
- _____ Not important

2a. How much sales volume in your industry is sold through catalogs?

- _____ 75-100%
- _____ 50-74%
- _____ 25-49%
- _____ less than 25%

2b. What is the total dollar volume of sales of your industry?

3. How many catalogs would you estimate are published and distributed in your industry? _____

4a. Are there electronic versions of product catalogs in your industry including catalogs available online or via a CD-medium?

_____ Yes [proceed to question #5]

_____ No [proceed to question #4b]

4b. Are there plans to make electronic catalog(s)

_____ Yes; when? _____

By whom? _____

_____ No; why not: _____

5. What are the chief obstacles in creating an electronic catalog in your industry?

6. Please explain how product listings are maintained and updated?

[End Survey Here, if "no" to question 4a]

7. How is the electronic catalog delivered

_____ Online

_____ CD-ROM

_____ Other, please explain _____

8. Who originates and operates electronic catalogs in your industry? (check all boxes and write names of companies that apply)

Company Type	Originates	Operates	Name of Company
Manufacturers			
Distributors			
The trade association			[one being interviewed]
A large printing company			
An information technology company			
Other (please explain)			

9. What is the volume of business generated by the electronic catalog? _____

10. On a scale of 1-5 (five being "very successful"), how would you rate the success of the catalog? _____

any comments? _____

11. Please explain how catalog users use the catalog?

12. Does the catalog have an electronic ordering capability built into it?

3. How many catalogs would you estimate are published and distributed in your industry? _____

4a. Are there electronic versions of product catalogs in your industry including catalogs available online or via a CD-medium?

_____ Yes [proceed to question #5]

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[End Survey Here, if "no" to question 4a]

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Other (please explain)			

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10. On a scale of 1-5 (five being "very successful"), how would you rate the success of the catalog? _____

any comments? _____

11. Please explain how catalog users use the catalog?

12. Does the catalog have an electronic ordering capability built into it?

13. Who pays for the catalog service? (check all that apply)

- Users pay a subscription fee
- Vendors pay a listing fee
- Catalog provider gets a percentage of every transaction
- Other, please explain

